Delta Air Lines, Inc.
Post Office Box 20706
Atlanta, Georgia 30320-6001

January 31, 2003

Docket Number FAA-2002-14002
Docket Management System,
U.S. Department of Transportation,
Room PL 401,
400 Seventh Street, SW.
Washington, DC 20590

Subject: Area Navigation (RNAV) and Miscellaneous Amendments - Notice of Proposed Rulemaking (NPRM)

Reference: Docket Number FAA-2002-14002

Dear Mr. Lawrence Buehler,

The FAA is proposing to amend its regulations to reflect technological advances that support area navigation (RNAV); make certain terms consistent with those of the International Civil Aviation Organization; remove the middle marker as a required component of instrument landing systems; and clarify airspace terminology. The proposed changes are intended to facilitate the transition from ground-based navigation to new reference sources, enable advancements in technology, and increase efficiency of the National Airspace System.

Delta offers the following:

First, Delta Air Lines requests an additional 45 to 90 day deferral of the response date to this NPRM. Due to the multiple amendments to the Federal Aviation Regulations we respectfully request additional time to review, understand, and coordinate responses to this very important proposed rule. Particularly, the communication requirements need further analysis. We would prefer additional time to understand the rationale and the focus of the proposed communication rule. To a lesser degree, Delta has comments relating to the coordination of this NPRM with conflicting terminology and definitions in the newly published AC 120-29A. Finally, the CAT II and CAT III definitions seem to go beyond the bounds of the requirements of this document. Specific comments in support of these issues follow.

Section 1.1

Category I (CAT I) operation: The term ``Category I operation'' commonly has been used in the aviation industry and in the preambles of FAA regulatory documents for years, but it has never been

clearly defined in the CFR. The FAA is therefore proposing to add a definition of this term. The proposed definition of ``**Category I (CAT I) operation'' is ``a precision approach** with a decision altitude that is not lower than 200 feet (60 meters) above the threshold and with either a visibility of not less than one half statute mile (800 meters) or a runway visual range (RVR) of not less than 1,800 feet (550 meters).''

> **The proposed definition includes the words "CAT I is a precision approach". This definition is inconsistent with both AC 120-29A (which includes non-precision in Category I approaches) and Operations Specification group CAT I approaches (e.g., see Operations Specification C053).**

Category II (CAT II) operation, Category III (CAT III) operation, Category IIIa (CAT IIIa) operation, Category IIIb (CAT IIIb) operation, and Category IIIc (CAT IIIc) operation: These definitions would be revised to incorporate the concept of precision RNAV. In each of these definitions, the terms ``ILS approach'' or ``ILS instrument approach'' would be replaced with the terms ``precision approach'' and ``precision instrument approach,'' respectively. The definitions would also be updated to be compatible with the Joint Aviation Authorities (JAA) terminology.

> **This NPRM should align with JAROPS standards referencing CAT 1, CAT II, and CAT III. The need to separate CATIIIa, CATIIIb and CATIIIc should be reviewed with respect to JAROPS, AC120-29, AC120-28D and HBAT 99-17. We may be better served to eliminate reference to CAT a, b, c, and consider publishing the lowest minimums to which a fail-operational aircraft may operate and the lowest minimums to which a fail-passive aircraft may operate.**

Final approach fix (FAF): This term would be added to indicate that a final approach fix is associated with a nonprecision approach.

> **AC 120-29A removes the term non-precision approach.**

Night: The FAA is proposing to revise the definition of the term ``night'' to reflect that local night may differ from the times published in the American Air Almanac. This concept of local night could limit operations at a particular location when the FAA determines it to be necessary for the safety of operations, for example, when terrain causes sunset significantly earlier than the Almanac indicates.

> **If accepted, the revision of the definition of "night" has the potential to affect operations. Delta is concerned how the FAA intends to disseminate actual night time information at specific locations to the users for the purposes of MEL and legality considerations.**

Nonprecision approach procedure (NPA): The FAA is proposing to revise the definition of this term so that there would be no reference to ``electronic glide slope.'' The term would apply to navigation systems that provide lateral (but not vertical) path deviation guidance.

AC120-29A removed the term non-precision. As written now, the NPRM would be developing a new definition.

Precision approach procedure (PA): The FAA is proposing to revise the definition so that there would be no references to ``standard instrument approach procedure'' and ``electronic glide slope.'' The revised term, however, would still be based on lateral course and track information with vertical glide path information. Currently, ILS, microwave landing systems (MLS), Global Navigation Satellite System (GNSS) landing systems (GLS) and precision approach radar (PAR) are recognized precision approach systems.

AC120-29A definition is different.

The FAA is proposing to revise paragraph (f) to clarify that published takeoff minimums are associated with a particular departure procedure (DP). Takeoff minimums are determined from the analysis of a particular runway environment. Thus, the departure procedure must be followed for a particular runway to ensure adequate obstacle clearance.

Normally, takeoff minimums are published with respect to an obstacle DP if needed to ensure a safe departure. However, most airports also have published Standard Instrument Departure (SID) procedures which may or may not be used for terrain avoidance. Additionally, there is inconsistency in the manner which minimums are published on these procedures. Some have takeoff minimums published, some refer to the airport page takeoff minimums, and others say nothing. It is very rare that ATC assigns an obstacle departure procedure. The FAA would need to clearly indicate on each departure procedure, SID or Obstacle DP, the appropriate minimums. If taken literally, the only procedure to fly in IMC would be the obstacle departure procedure. Delta does not believe this is what the FAA intended.

Paragraph (h) would be amended by removing the RVR table from paragraph (h)(2) and replacing it with a reference to FAA Order 8260.3, ``U.S. Standard for Terminal Instrument Procedures (TERPS),'' which contains the RVR table. This would eliminate duplication, and ensure that the public has information based on on-going changes in technology. In addition to appearing in FAA Order 8260.3, the RVR table also appears in the Aeronautical Information Manual (AIM), the Instrument Flying Handbook, and in the Flight Information Publications

Delta recommends the table be kept in the FAR to ensure operations are based on a regulatory source.

The FAA is proposing to amend Sec. 121.99(a) by changing the term ``two-way radio communication system'' to ``two-way communication system.'' In addition, the term ``point-to-point circuits'' would be changed to ``communication links.'' These changes would make the regulation more flexible for modern means of communication and would allow for future changes in technology. In addition, the FAA is proposing to add a requirement for a communication system that would have two-way voice communication capability for use between each airplane and the appropriate dispatch office, and between each airplane and the appropriate ATC unit, for non-normal and emergency conditions. The FAA believes it would be necessary from the pilot workload and flight safety standpoints to retain two-way voice communication capability for non-normal and emergency conditions. Data link communication systems currently require a pilot to use a keyboard to communicate between the airplane and the stations described above. Reliance on data link communications alone during an emergency could cause an unsafe condition. Additionally, with respect to communications between the airplane and the dispatch office, the FAA is proposing to add a definition of ``rapid communications'' that is based on a legal interpretation issued by the Regional Counsel of the FAA's Southern Region on May 26, 1977. A copy of this interpretation can be found in the public docket for this rulemaking. Generally speaking, rapid communication means that the calling party must be able to establish communication with the called party in less than 4 minutes.

> **Section 121.99, "Communications Facilities", introduces new requirements which are costly and timely to implement. The main issue lies with the need to have continuous voice capability with the company. There are some operations where certain portions of the route segment have data link capability but not direct voice with company. The entire route has voice with ATC. With 121.99(b) requiring the communication to be independent of the ATC communication system, leads to the conclusion that data link may be used for normal communication but we must also have voice in case of an emergency communication need. It is our position that in an emergency, the operator should be allowed to use ATC as voice if needed. This would require amendment to 121.99(b). Without this latitude, Flag operators presently using data link communication systems to communicate with crews would require either satellite communication system or high frequency radios. We propose the FAA needs to review the limited route/time exposure before requiring continuous voice coverage.**

The change is also intended to address the vulnerability of GPS, which uses very weak signals that are susceptible to interference. For example, two minimum GPS (or other satellite navigation) receivers may not be considered ``independent,'' since both are so vulnerable to interference. However, the proposed rule would be performance-based rather than prescriptive; thus, it is possible that two GPS receivers with an anti-jam capability could be considered independent, since they would not be so vulnerable to interference.

> **Section 121.349, "Communication and Navigation Equipment for Operations Under VFR Over Routes Not Navigated by Pilotage or Operations Under IFR or Over the Top". The reference to vulnerability of GPS, which uses very weak signals that are**

susceptible to interference, should be removed. GPS is much more reliable than any other navigational source. GPS NOTAMs are available and published. Considering that a ground based VOR is a single source transmission but FAA allows dual VOR receivers, it does not make sense to restrict GPS. If the aircraft has "anti jamming devices" it still would not preclude the jamming of the signal coming to the aircraft. If, in fact, the FAA believes jamming is a real threat, then guidance should be clear with respect to the need for one additional independent navigation system when used in conjunction with a GPS.

In addition, for non-normal and emergency operating conditions, the FAA proposes to add a requirement for at least one of the independent communication systems to have two-way voice communication capability. The requirement to report DME failures has been removed since it is required in current Sec. 91.187.

Refer to our comments with respect to 121.99.

This would permit the use of data link communications systems for normal operating conditions. Also, paragraph (a) would be revised to require at least one of the independent communication systems to have two-way voice communication capability for non-normal and emergency operating conditions.

Refer to our comments with respect to 121.99.

VI. Economic Evaluation

Proposed and final rule changes to federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. 2531 through 2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, the Trade Agreements Act also requires agencies to consider international standards and, where appropriate, use them as the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a federal mandate likely to result in the expenditure by state, local, or tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted for inflation). In conducting these analyses, the FAA has determined that this NPRM: (1) Would not be ``a significant regulatory action'' as defined in the Executive Order, and would not be ``significant'' as defined in the Department of Transportation's Regulatory Policies and Procedures;

IV. Economic Evaluation

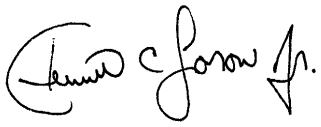
Delta believes this NPRM is definitely significant, would have significant impact on small entities (as well as large), and would impose an unfunded mandate.

This rule would likely mandate SATCOM on international aircraft or high frequency radios.

Delta requests additional information to determine if this regulation is intended for all operators in US airspace or only US operators. Delta believes the intent of this rule should also be required by foreign-registered operators operating in the US (NOTAM) - especially if the FAA is trying to make the US skies safer. Specifically, if US operators flying in the Gulf are mandated to install and carry extra equipment, so should others operating within US Gulf airspace.

If you have any further questions on this subject, please contact Ken Lorow - Manager, AD/Regulatory Compliance, at (404) 714-4685.

Regards,



Kenneth C. Lorow Jr.
Manager - AD/Regulatory Compliance